

ASD Weekly Highlights for the Week Ending 6-Jan-2006

Operations

- Closed out Pre-Start Action Items from Ring ARR
 - Pulling Shielding drawings for sign-off
 - Preparation for Tuesday 10-Jan Werbeck and Kennedy tour
 - Pictures and Documents to send out Friday
 - Hope for a sign-off Tues, DOE on Wednesday 11-Jan
 - Floor tiles going in and tethered in Target Building over RTBT

- Ran the LINAC to the LINAC dump for:
 - The LDRD Laser Stripping experiment
 - Tests of the LLRF AFF system
 - Preliminary beam tune-up for Ring Commissioning

PUP

The SNS Power Upgrade Conceptual Design Report is being updated for management review starting on January 11, 2006. It will be provided to DOE on schedule on January 16, 2006.

As part of the CDR update, the Target planned CD-2, Approve Performance Base Line, is being delayed ~ nine months to allow additional time for required R & D. CD-4, Project Complete, for the Target is delayed from March 2011 to June 2011. This re-planning is currently being reviewed with the SNS Executive Director.

Electrical Systems

SRF Facility

Survey and Alignment

HEBT:

No activity.

RING:

Final alignment of the RID line of diagnostics and flanges.
QTHC10/QTVC11 (first extraction doublet) Re-aligned after removal for kicker work.
Equipment staged for chainsaw and injection area mapping.

RTBT:

QH26 final alignment (30Q58).

QV25 final alignment (last 21Q40).

TARGET:

BL13: As-built BL13 PIP

BL13: Mapped chopper flange.

BL3: Steel floor plates precisely aligned.

BL15: Shutter alignment tray location verified.

BL12: Verify shutter position.

BL4: Fiducialization of guage plate for BL4 choppers.

BL2: Chopper #2 re-aligned in S&A lab.

BL12: Shutter aligned.

Miscellaneous:

S&A Lab area cleaned, organized, and inventoried lab space.

Diagnostics

Cryo Systems

Mechanical Systems

Accelerator Physics

RF Systems

Ring RF

All four stations are operating at design levels under full closed-loop feedback mode under Low Level RF control.

Ring RF System including Low Level RF is ready for beam.

Wall Current monitor is connected and shows about 1.5 mV of ring RF noise. Well below the 5 mV anticipated first turn beam signal.

The SNS version of our Wall Current Monitor Mountain Range display is operational and performs really well.

Ion Source

Controls

This week a major redeployment of resources to Target I&C was organized. Recruits were “volunteered” from the Diagnostics, RF and Electrical Groups and were added to the team already being put together from Controls and XFD. It is expected that as Ring installation wraps up next week, this new team will move to Target installation, testing and repair tasks. Meanwhile, the shutter control IOC is now up and running.

On the accelerator, most of the effort was towards cleaning up the loose ends and completing test plans in preparation for the upcoming Ring commissioning run. At week's end several small tasks remained to be completed:

- Two RID control valves read back incorrectly
- Ring skid test plan needs completing and some screen indications need fixing
- Ring Collimator Catch Pan level switch needs to be installed and tested
- Extraction Dump Thermocouple archive file needs checking and sign-off.
- Remaining HEBT foils need loading and position checking
- Primary Scrapers (on Ring North Straight Section) only need sign-off
- Injection Thick Foil needs loading, position check and sign off
- Chainsaw Drive needs loading, MPS and position indications check
- Magnet Cooling Water flow transmitter needs replacing.

The Ring vacuum test procedure was completed with the exception of venting the injection dump area to trigger the fast valve using the fast valve sensor. This fast valve should be tested early next week. Troubleshooting of the LEDP fast valve suggests a CCG problem – this work will be completed next week.

A small number of MPS inputs remain to be tested, including: injection foils, three wire scanners, Ring HPRF, extraction kickers and twelve ring magnet power supplies. In addition, the MPS PLC inputs need to be verified.

The new MEFT Chopper controller FPGA hardware was deployed and tested. The switches required some internal adjustments to work properly. FPGA changes were made to the LEBT/MEFT chopper controller in unison with RTDL frame changes which will be deployed early next week.

The Ring LLRF system “slow feedback” sequence was modified to improve reliability. All four systems subsequently ran for extended periods.

Also for improved reliability, error handling in the Archiver toolset was rearranged, adding several unit tests.

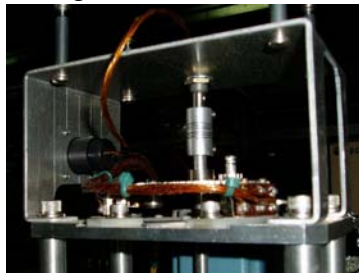
The Test Facilities Network can now be accessed directly from the Accelerator Network, using a button on the top-level screen that automatically starts the test facilities top-level navigation screen. This can be done any where on the accelerator network, any OPI, COW, or whatever. This is part of a longer-term program to make all of the CCR Consoles identical in their capabilities.

A joint team from the alignment, controls, cryogenics, diagnostic, mechanical, physics, and vacuum groups “attacked” the primary stripper chainsaw drive in the Ring Tunnel and made considerable progress.

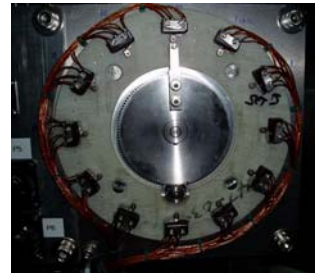


The position limit switches, motor records, and feedback pots were calibrated and the foils can now be repeatedly positioned as needed.

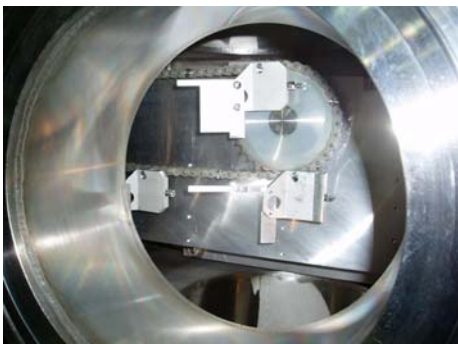
Plunge Limit Switches and Pot



Foil Selection Limit Switches



The Graticule was installed and the video camera aligned. Dummy foils were installed and tested.



The PPS team continued its work on Chipmunk installation and testing, and supported the dismantlement of the “Butler” Building in the Klystron Gallery. This work involved recalibration of the Farwest radiation detector for installation at the “Butler Building” and

completion, installation, and test of the Radiation Detection System for that building, including all the associated drawings, travelers, and paperwork. In the meanwhile, work progressed on the Target PPS software specification, I/O checkout and PLC programming, as well as design and procurement for the Instrument PPS system.